Teacher Professional Development and Media Education in a Virtual Learning Environment

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Abstract
The digital and media environment has brought new challenges that demand the development of specific skills to face them. Teachers are aware of the importance of using technology and social networks in educating new generation. However, they do not feel prepared to provide media education. The issue of education in values still receives less attention than necessary. The aim of the study is: to develop a Teacher Professional Development (TPD) program that allows participants to be better prepared to work with media education, focused on the Ideology and Values dimension. Research methods: to develop the TPD in the LMS it will be necessary: 1st. definition of educational objectives related to media education, focused on the Ideology and Values dimension; 2nd. To carry out a survey of media products that can promote reflection, analysis, synthesis and discussion that will be transformed into Digital Learning Object-DLO, instructional components that can be reused in different contexts and accessed through the Internet; 3rd. selection of didactic strategies, using the DLO, to be developed to reach the objective. Conclusions and recommendations: The design of the TPD program, in the LMS, with a playful perspective and active participation of teachers, enables the organization of classes and activities online using various resources in the form of a learning object.
Keywords: teacher professional development, media education, learning management system, competence, values.

Профессиональное развитие учителей и медиаобразование в виртуальной среде обучения

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Аннотация
Цифровая и медийная среда требуют развития определенных навыков. В связи с этим учителю необходимо поощрять критическое мышление учеников, направлять их обучение и творчество на способность анализировать контент и адекватно выполнять задания. Учителя осознают важность использования современных технологий и социальных сетей в обучении. Однако многие педагоги не чувствуют себя готовыми к переходу на медиаобразование. Воспитанию культуры поведения в медиапространстве по-прежнему уделяется мало внимания, вероятно, из-за сложности и многогранности этой работы. Цель нашего исследования – разработать программу профессионального развития учителей (TPD), которая подготовит участников к процессу медиаобразования, ориентирует их на вопросы идеологии и ценностей. Разработка TDP в системе управления обучением (LMS) потребовала: 1) дать определение образовательным целям; 2) изучить медиапродукты, которые будут преобразованы в Цифровые обучающие объекты (DLO); 3) определить дидактические стратегии, включающие кейсы, форумы и разработку новых медиапродуктов. Выводы и рекомендации: дизайн программы в LMS позволяет организовать занятия и задания с использованием различных ресурсов в виде объектов обучения.
Ключевые слова: профессиональное развитие учителя, медиаобразование, система управления обучением, компетентность, ценности.

Introduction

The digital and media environment has brought with it new challenges that require the development of specific skills to face them. Therefore, the new teacher needs to promote critical thinking in relation to the contents and sources of information, in addition to stimulating learning and creativity aimed at the skill to analyze the different contents, as well as production. Teachers are aware of the importance of using technology and social networks in the education of new generations and the risks associated with their use. However, they do not feel prepared to provide media education to the "prosumers" of the future (Gutiérrez-Martín et al., 2022).

Facing the challenges posed by the strong presence of technology and the media, media literacy is necessary in everyday life. The media literacy process enables one to critically read the contents disseminated in the media. During this process, it is possible to develop media competence - mobilization of Knowledge, Skills and Attitudes

(values) to solve problem-situations related to the mediatization of life, which is possible with media education, an intentional process that initially aims at media literacy and culminates with the development of media competence. Values lay the foundations of competence[1] and are indispensable for its development. Therefore, to develop the media competence, the improvement of values education is essential.

For a better understanding of the teacher's role in values education, it is necessary to consider that today many people become teachers because of the lack of other opportunities and not by vocation. In addition, the teacher's training is not solid in terms of values. Therefore, how can teachers develop in students what they do not have? Novack (2008) noted that if we care about the ethical training of students, we should do the same in relation to teachers. That is, we need, first of all, to reflect on the values of teachers, because human actions are reflections of values built throughout the life. A teacher who disregards or is unaware of the role of values in the conduct of personal and social life will find it difficult to sensitize students about this role and commit to developing values.

Puig (1998) points out that the educator has a fundamental role in the construction of the student's moral personality and understands that it is not a matter of judging the person's goodness or badness, or assessing the judgment and opinion of students on controversial issues. Individual and collective evaluations are necessary and the author points out criteria that can be used. Due to its complexity, including education in values into pedagogical practice requires that the teacher should be a leader. Leadership is the ability to influence peers and improve their practices individually or collectively.

Ilaltdinova, Frolova and Sergeeva (2021) corroborate Puig (1998) in the teacher's responsibility for the formation of students' values, which leads them to consider the need to develop the teacher's competence in character formation throughout the entire professional life cycle.

Values education can be part of the teacher's initial training or be retake at continued teacher support with a focus on facing the challenges brought by the technologization and mediatization of modern life. It is argued here that when the teacher is already in practice, this retake can be more effective in a Teacher Professional Development (TPD) program. The argument is based on the understanding of TPD as a continuous, growing and evolutionary process of professional teaching skills through individual or collective actions, which consider the school context in its various experiences, formal or informal (Marcelo, 2009).

The purpose of this work was to design a TPD to develop the teacher's leadership and media competence, focused on values education, so that teachers perceive themselves capable of promoting the media education of their students. Returning to the idea that "the medium is the message" (McLuhan, 1964, p. 11), the TPD was implemented with media productions in a Learning Management System (LMS), which allows the teacher to manage access to the proposed contents and activities according to their availability time. The proposal, developed here, is based on Slavov & Pimenta's research (2022), which investigated the necessary procedures to improve the management of pedagogical practice in the LMS. The methodological procedures included a field study with intervention and application of a questionnaire, in which teachers and students' perceptions about the use of the LMS in the teaching-learning process was collected. Its results offered subsidies to support new management proposals for pedagogical practices implemented in LMS.

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[1] Competence understood as the as the personal condition to mobilize resources: knowledge, skills and attitudes to solve problems (Perrenoud, 1998), whether in personal, social or corporate life.

Purpose and objectives of the study

The objective of the research is to create a TPD program, using a LMS based on teacher leadership skills that allows participants to be better prepared for work with media education, focused on the Ideology and Values dimension.

Literature review

Ferrés and Piscitelli (2012) proposed six dimensions to develop Media Competence. It is structured around two areas of work in every dimension: the production of their messages (expression) and the interaction with outside messages (analysis). In the Ideology and Values dimension, considering the expression area, it highlights among others the ability to take advantage of new communication tools to transmit values and contribute to improving the environment in which we live, as an attitude of socialization and cultural commitment. The issue of education in values still receives less attention than necessary, probably due to the difficulty of approaching, working on, and evaluating values and virtues at all educational levels. There are few academic and scientific documents that address this issue in face-to-face teaching and, even fewer, those that address it in distance learning.

In this paper, it is considered that the proposal to train teachers needs to be based on a vision of education. Charlot (2014) argues that education is a right and not a commodity, which is why it needs to be defended. Unlike preparation for the job market, it is better to think of it as a professional qualification process. It draws attention to the movement of becoming a human being, which happens through the triple process of hominization, socialization, subjectivation. In the framework of hominization or humanization, the cultural, artistic, scientific heritage produced by humanity throughout its history are available to the student. Socialization involves the process of learning to live and coexist in the struggle with the existence of the other. Effective education needs a real understanding of life in society and the ability to socialize. Subjectivation or singularization presupposes the ability to synthesize the world and self-criticize constantly, which would enable the development of singular beings in their fullness so that they could live, think and choose an autonomous way.

Once the vision of education is defined, the need to develop values is justified, which implies providing ethical education aimed at developing the necessary conditions for a dignified life that enables participation in society in a critical and autonomous way (Araújo, 2003). Novack (2008) points out the great need to educate people who are willing to get involved in collective projects. This is one of the main objectives of education for citizenship and social commitment. Therefore, students need to experience and develop personal values that foster this collective responsibility.

Education in values needs to be seen as a process, i.e. values are not born with people, since they are not genetically predetermined, nor internalized from outside to inside the subject (Pátaro & Alves, 2011). Thus, it is necessary to understand that an idea becomes a value for someone when positive feelings are projected onto it. Consequently, projected positive feelings awaken the willingness to repeat desirable behaviors, not as a mechanical habit, but as something we learn, reflect and evaluate according to the motivations presented to us by emotions and reasons (Arantes et al., 2007).

Even believing that it is the function of education to contribute to the formation of citizens, Novack (2008) suggests that the educator should not inculcate his/her way of life as universal. Otherwise, they need to teach students to deliberate well, foster self-esteem, helping each one to find and carry out their own happiness projects. This often requires the teacher to adopt a neutral position, allowing students to learn to resolve conflicts autonomously.

Leadership is an important aspect in many spheres of human personal and professional life (Strielkowski & Chigisheva, 2018). According to Heikka et al. (2022), the concept of pedagogical leadership is at an early stage of development. Pedagogical leadership aims at supporting student's all-round development and wellbeing (Douglass, 2019). Heikka and Waniganayake (2011) considered the term to be connected not only with learning but also with the competencies of educators and the values and beliefs about education held by the education community and the wider society.

There is no definition or theory of what teacher leadership is (Ali & Latfi, 2022). Instead, it is possible to find different approaches to identify the competencies of teacher leaders. For example, Cheung et al. (2018) links teacher leadership with teacher leaders' roles in implementing innovative approaches and helping their peers understand how these fit with their knowledge, skills and values.

The adoption of a computational resource for the pedagogical management of the learning process, in this case a TPD, can be carried out with the LMS. It allows organizing classes and activities within the online platform to manage any learning object and its adopted resources. LMS could contribute to the learning process by making available the planning of the pedagogical practice, contemplating the relevant contents of discipline, the objectives, the didactic strategies, and evaluation criteria. In addition, teachers can provide access to bibliographical references, with an online library, class notes, and other activities. The LMS makes it possible to provide the teaching plan and the activities' schedule; diversify the evaluation instruments and explain their criteria. In addition, it organizes teaching procedures and strategies in a logical, structured and friendly way to facilitate access. Furthermore, the LMS enables interaction between the professor and the students, synchronously or asynchronously. According to Kenski (2003, p. 8), "the flexibility of navigation in the virtual environment provides opportunities for the diversification and personalization of paths and the articulation between formal and non-formal knowledge". This interaction brings a certain autonomy to the student, allowing them to read the content at their own time and pace.

The applied LMS to develop this TPD was Moodle (Modular Object-Oriented Distance Learning) that allows to have the initial screens customized and configured according to the institution's visual identity and the course format. The pedagogical content can be displayed on Moodle in several ways, being in weekly sessions, named topics according to the planning or in social networks format. In addition to this initial configuration, Moodle contains several tools that allow integration with other LMS. Being them: *Activities* (Chat, Forum, Survey, H5P, Questionnaire, Task and others) that can be used as evaluation instruments; and *Resources* (Files, Page, URL, Labels and others). In Moodle, it is possible to include SCORM (Sharable Content Object Reference Model) activities, which is a collection of specifications that enable the interoperability, accessibility and reusability of web-based learning content and learning resources LTI (Learning Tools Interoperability) which is a widely used standard for interoperability of learning tools. Moodle Analytics is an interesting module for learning analysis that detects unknown aspects of the learning process based on the historical data and behavior. The last highlight goes to the Moodle item "follow the progress", where it is possible to define the completion conditions in the activity settings, and to mark the checkbox that will appear next to the activity, once the criteria for this specific activity are attended.

The concept of Digital Learning Objects (DLOs) is controversial. Wiley (2002, p. 6) defined it as "any digital resource that can be reused to support learning" and "includes anything that can be delivered across the network on demand, be it large or small". For this work, DLO is a media product (movie, video, app) that could be used as instructional component and be reused in different contexts and accessed through the Internet.

Methodology

The results of the research carried out by Slavov & Pimenta (2022) served as the basis for the organization of TPD in the LMS. Therefore, a summary of the students' and teachers' perceptions about the use of the LMS is presented. The data were collected by means of two questionnaires answered by eight professors and 78 students from the Technology in Analysis and Systems Development course offered by a college in the state of São Paulo. Completed at the beginning of the semester, Questionnaire 1 had the purpose of identifying the initial knowledge of teachers and students about the LMS functioning and features. During the semester, teachers were instructed to use the resources of a specific LMS, Blackboard: videos, tasks, chat, forum. Questionnaire 2, designed for research participants to evaluate their experience with the LMS as a learning resource, was filled in at the end of the semester.

To subsidize the development of the suggested DPD, perceptions about learning objects were considered, such as: files (class notes in pdf, ppt etc.), Videos, Podcast, URL Link, Chat, Forum, Questionnaire and Task. In a descending order, *URL link*, *file* and *quiz* were considered easy to use. The *videos* were considered interesting and the *task* was seen as help in learning.

After the experience with the LMS, the students partly changed their perceptions of the resources. Only *URL link* and *file* continued to be perceived as easy to use. About the other items, the perception changed to help in learning. The comparison of the change, in the perceptions expressed in the responses of Questionnaires 1 and Questionnaire 2, can be seen in Table 1.

Table 1. *Comparison of Answers to Students' Questionnaires*

Object	incidence	Answer to Quest. 1	incidence	Answer to Quest. 2
File	38	easy to use	23	easy to use
Vídeos	30	interesting	25	help in learning
URL link	41	easy to use	26	easy to use
Quiz	33	easy to use	21	help in learning
Task	38	help in learning	23	help in learning

Regarding the change in perception, it is possible to infer that the higher incidence of "Help in Learning" may indicate a change in the focus of perception from technique to didactics and understanding about the function of the resource in the teaching-learning process.

The teachers' perception of the resources identified in the analysis of their responses point to a greater appreciation of practical aspects related to the management of pedagogical practice, such as sending out work, online communication. In the background, more subjective elements of the pedagogical dynamics remained: interaction, participation and learning.

Another result of the research that guided the elaboration of the TPD proposal concerns the students having emphasized that the platform was *intuitive* and made it possible to *interact with the teacher*, that is, the appreciation of a *user-friendly interface* and a *communication channel*. Teachers highlighted *functionality*, *clarity* and the *ability* to monitor student learning. Both students and professors also highlighted the *ease of access* and *organization of learning*. The analysis of perceptions indicated that the Moodle

resources have the potential to favor the management of pedagogical practice from the teacher's point of view, and contribute to learning from the student's perspective.

To develop the professional competencies of teachers, we chose to follow the COMPROMETIC model (Competence of Teachers for Media and ICT) (Gutiérrez-Martín et al., 2022). Within the professional skills grouped in the Comprometic model, axiological skills were classified as extremely important. Developing competencies related to this domain means being able to work on and assess values and virtues in students. Therefore, the proposed activities, in addition to raising awareness about values and promoting the use of ethics, will also allow teachers to identify and analyze explicit and implicit values in the media resources used.

Results

The designed TPD program centered on teacher leadership skills that allow participants to be better prepared to work with media education, focused on the Ideology and Values dimension. The chosen LMS to support TPD was Moodle because it is similar to Blackboard and has free access. The TPD had five study modules, started by clarifying the concept of competence and ended by addressing the complexity of assessment and feedback in values education. In Table 2, the objectives, content, activities and resources used in this module are presented in detail.

Table 2. *Sequence of activities*

Module 1. Clarification on the concept of competence
Introductory text
The concept of competence has been used a lot and mistakenly by scholars and in official documents. Because it is an important concept when thinking about education for personal, social and corporate life, the confusion that surrounds it compromises efforts to develop competence. But what is competence anyway?

Resources and Activities	Content and Objectives
1. Text: Competence and education: a mistake or a necessity? https://periodicos.uniso.br/quaestio/article/view/4914/4596	It deals with the education role on competency development; what is it; and its elements.
Activities: elaborate Conceptual Map from reading, comprehension, analysis, identification;	**Objective**: develop concepts: competence, CHA Theory; and skills: reading, understanding, analyzing, identifying;
2. Movie: The boy who harnessed the wind https://www.youtube.com/watch?v=nPkr9HmglG0	Based on a real story, it demonstrates how the competence elements: Knowledge, Skills and Attitudes are articulated in problem solving and the role of values in this process.
Activities: elaborate storytelling of understanding and appreciation of the movie	**Objective**: develop skills; reflect and raise awareness about values
3. Video: Moretto, Vasco. School performance focused on developing skills and abilities. YouTube, 03 Nov. 2013. Available at: https://www.youtube.com/watch?v=qUPwD8CLseQ	Clarifies the mistake made when using the expression "competence and skills"; reflects on the competence development; Teaching competence;

Activities: list the main ideas presented in the lecture: understand, identify, list;	**Objective**: develop concepts: competence, skills, attitudes, complex situation; and skills: reflect, apply concept, dialogue;
Evaluation: 1. Make a summary of how competence is shown in the three materials: text, movie and lecture and what you understood; 2. Identify and appreciate the language and resources used in each of the materials; 3. What did you like the most? What caught your attention? What did you dislike?	

In addition, the TPD comprised: Module 2 - Comprometic Model - media and digital competence of teachers (Gutiérrez-Martín, et al., 2022) deals with the dimensions and relationships of media and digital competence with education; Module 3 addresses faculty leadership and its role in building a relationship of trust and inspiration; and Module 4 focuses on education in values, proposes a reflection on values and how to elaborate problem situations to work with them. Module 5 deals with evaluation and feedback in values education.

Discussions

The design of the TPD in the Learning Management System has a playful perspective and active participation of teachers, aiming to encourage leadership development. The LMS makes it possible to organize online classes and activities using various resources in the form of a learning object. In this study, the chosen one is Moodle, being a free software e-learning platform, with the development carried out by virtual communities.

Digital Learning Objects (DLOs) can be media products that promote reflection, analysis, synthesis, and discussion. These, in turn, will have the perspective of developing knowledge, skills, and attitudes, that is, digital and media competence. These enable participants to understand the meanings and the ideological, political, or economic interests present and created in and by media production. Values will be discussed and analysis and synthesis activities, cases, forums and the production of new media products will be proposed.

Assessing the effective changes produced by values education is admittedly a difficult task (Zabala & Arnau, 2010), since human behavior is not only determined by what people would like to do and their values. In addition, people are also influenced by what they think they should do (according to current social norms), by what they are used to do (by virtue of social habits) and by the consequences resulting from the adopted behavior (Ros, 2006).

Conclusion

In addition to developing media and ICT teacher's skills and the leadership skills, the proposed TDP provides confidence to function as a citizen and as a mediator of student learning in the information society and the media. LMS is a resource that can help in pedagogical management by facilitating organization and evaluation, allowing to increase students' interest in monitoring their learning. Besides, it provides new ways of studying and working; and dealing with the internet/connectivity, broadening its focus beyond social networks. As for the teachers, they improve their classes with the use of the LMS, because in addition to managing content and activities, the tool allows expanding their "vision" in the individual and collective development of students in classes; review planning if one needs to change a course or redefine routines; effectively intervene in learning with feedback; and extract specific information from the developed learning process.

We are not defending the priority and indiscriminate use of LMS here, especially to the detriment of face-to-face teaching. We suggest its integration into the pedagogical dynamics, instead of just depositing material for students - with its potential to develop autonomy and adapt itself to the individual characteristics.

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